

Bridge No. 38 is a nine span bridge that consists of reinforced concrete deck on approach continuous I-beams and main simple I-beams supported by reinforced concrete cap and timber pile at end bent 1 and bent 1, reinforced concrete spill through at abutment 2 and reinforced concrete pile and beam at bent 6, 7, and 8. The existing bridge (see Figure 3) was constructed in 1951. The overall length of the structure is 270 feet. The clear roadway width is 22.0 feet.

There are no utilities attached to the existing structure, but Energy United has overhead power lines along the west side of Frye Bridge Rd. that cross Muddy Creek parallel to west side of bridge and SR 1493 at north approach to Windfield Subdivision. AT&T has underground telephone cable along the west side of Frye Bridge Rd. both north and south of stream that goes over Muddy Creek parallel to the west side of bridge. This cable crosses to the east side of SR 1493 in south approach at top of the hill. Time Warner Cable has aerial CATV attached to power poles along the west side of SR 1493 crossing over Muddy Creek west of the bridge and crossing over North approach into the Windfield Subdivision with power lines. Davidson Water has a six inch water main along the west side of SR 1493 south approach. The six inch DI water main crosses to the east side of SR 1493 at the south end of bridge then crosses under Muddy Creek parallel to upstream side of bridge and continues along east side of SR 1493. The City of Winston Salem has a Sodium Bi-Sulfite Mixing Station with a 3000 gallon tank in the Northeast quadrant for removing Chlorine from Muddy Creek Wastewater Treatment Facility upstream. A sixty-six inch Reinforced Concrete Outfall paralleling the west side of Muddy Creek crosses under SR 1493 bridge and continues southwest before discharge into the Yadkin River. Utility impacts are anticipated to be low.

The current traffic volume of 3,000 vehicles per day (VPD) is expected to increase to 5,600 VPD by the year 2035. The projected volume includes one percent truck-tractor semi-trailer (TTST) and two percent dual-tired vehicles (DT). The posted speed limit is 45 miles per hour in the project area. Four school buses cross the bridge daily on their morning and afternoon routes.

There were three accidents reported in the vicinity of Bridge No. 38 during a recent three-year period. Neither of the accidents was associated with the alignment or geometry of the bridge. The bridge does not meet acceptable standards for bridge railing or approach railing.

This section of SR 1493 is part of Scenic Bike Route 2 and also a part of the Mountains to Sea Trail. Sidewalks do not exist on the existing bridge and there is no indication of pedestrian usage on or near the bridge. Bicycle traffic will be maintained on existing bridge during construction. Neither permanent nor temporary pedestrian accommodations are required for this project.